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(54) Title: METHOD FOR ENCODING A DIGITAL SIGNAL INTO A SCALABLE BITSTREAM; METHOD FOR DECODING A SCALABLE BITSTREAM.
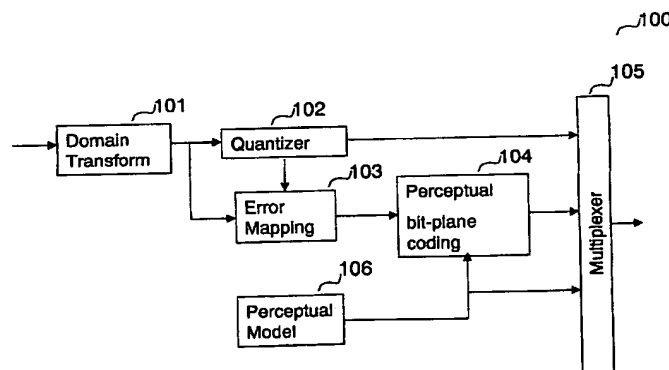
(57) Abstract: A method for encoding a digital signal into a scalable bitstream comprising quantizing the digital signal, and encoding the quantized signal to form a core-layer bitstream, performing an error mapping based on the digital signal and the core-layer bitstream to remove information that has been encoded into the core-layer bitstream, resulting in an error signal, bit-plane coding the error signal based on perceptual information of the digital signal, resulting in an enhancement-layer bitstream, wherein the perceptual information of the digital signal is determined using a perceptual model, and multiplexing the core-layer bitstream and the enhancement-layer bitstream, thereby generating the scalable bitstream. A method for decoding a scalable bitstream into a digital signal comprising de-multiplexing the scalable bitstream into a core-layer bitstream and an enhancement-layer bitstream, decoding and de-quantizing the core-layer bitstream to generate a core-layer signal, bit-plane decoding the enhancement-layer bitstream based on perceptual information of the digital signal, and performing an error mapping based on the bit-plane decoded enhancement-layer bitstream and the de-quantized core-layer signal, resulting in an reconstructed transformed signal, wherein the reconstructed transformed signal is the digital signal.